

CLAIMS

1. A membrane wall element for erecting a tent or hall construction, having at least two wall membranes (1A, 1B, 1C) and clamping devices (5), said at least two wall membranes (1A, 1B, 1C) being stretchable by means of said clamping devices (5) and being spaceable from one another by means of at least one spacer element (2) in such a way that a cavity (6) is formed between said at least two wall membranes (1A, 1B, 1C), characterised in that said at least one spacer element (2) is arranged separately from said clamping devices (5) and articulately connected to said at least two wall membranes (1A, 1B, 1C) at inside faces thereof which face each other, so that in the stretched state of said at least two wall membranes (1A, 1B, 1C), due to the tension acting on them, said spacer element (2) adjusts itself in such a way that said at least two wall membranes (1A, 1B, 1C) are kept spaced apart from one another.
2. The wall element according to claim 1, characterised in that said at least two wall membranes (1A, 1B, 1C) are made of tent canvas.
3. The wall element according to claim 1 or claim 2, characterised in that said at least two wall membranes (1A, 1B, 1C) are secured within said clamping devices (5) at two end sections facing each other.
4. The wall element according to claim 1, 2 or 3, characterised in that said clamping devices (5) are formed by section bars (55, 55').
5. The wall element according to any one of the preceding claims, characterised in that said at least two wall membranes (1A, 1B) are joined with each other at respective end sections (40) that face each other.
6. The wall element according to claim 4 and claim 5, characterised in that a keder rope (36) is provided edgewise at said joined end sections (40).

7. The wall element according to claim 4 and claim 6, characterised in that said section bars (5) have undercut longitudinal channels (30) into which said keder ropes (36) of said joined wall membranes (1A, 1B) are pullable.

8. The wall element according to claim 4 and claim 6, characterised in that said section bars (55') have cover strips (56) and longitudinal channels (31) into which said keder ropes (36) of said joined wall membranes (1A, 1B) are placeable, and in that said longitudinal channels (31) are sealable by said cover strips (56) so that said keder ropes (36) are secured within said section bars (55').

9. The wall element according to any one of claims 3 to 8, characterised in that a stretching device (15) having stretcher rods (25, 26) is provided between said section bars (55) via which said wall membranes (1A, 1B) secured within said section bars (55) can be stretched apart.

10. The wall element according to claim 9, characterised in that said stretching device is actuatable via a toggle lever device (75) whose drive spindle (16) for actuating two toggle levers (17, 18) is oriented transversally to the longitudinal axis of said stretcher rods (25, 26).

11. The wall element according to claim 10, characterised in that said stretcher rods (25, 26) have hollow sections by which they are slidable at one of their ends over profile ends of said toggle lever device (75) so that said stretcher rods (25, 26) are movable via toggle-lever (17, 18) actuated displacement elements (38, 39), and in that at the other end of each stretcher rod (25, 26), a flange piece (29) for securing to said section bars (55) is attached.

12. The wall element according to any one of claims 5 to 11, characterised in that the longitudinal sides of said at least one rigid spacer element (2) extend between said at least two wall membranes (1A, 1B) in parallel with the joining lines (90), that face each other, of said wall membranes (1A, 1B).

13. The wall element according to claim 12, characterised in that said at least one rigid spacer element (2) has a rigid connecting piece (3) with flexible strips (4) formed onto its longitudinal sides which are connected with the inside faces, that face each other, of said at least two wall membranes (1A, 1B), so that the longitudinal sides of the at least one rigid connecting piece (3) are articulately connected to said wall membranes (1A, 1B), with the pivot points on said wall membranes (1A, 1B) all being spaced equally from the edges of the end sections of said wall membranes (1A, 1B), and with the rigid connecting piece (3) and the membrane portions that extend to said end sections forming an isosceles triangle in their stretched state when viewed in cross-section.

14. The wall element according to any one of the preceding claims, characterised in that said at least one rigid connecting piece (3) shows a predeterminable stiffness in order to achieve the separation of the spaced-apart wall membranes (1A, 1B, 1C) when said wall membranes (1A, 1B, 1C) are fixed.

15. The wall element according to claim 13 or claim 14, characterised in that said flexible strips (4) extend away from the longitudinal sides of said rigid connecting piece (3) in opposing directions.

16. The wall element according to any one of the preceding claims, characterised in that two wall membranes (1A, 1B) are formed which in their stretched states are held spaced apart from one another by means of two spacer elements (2).

17. The wall element according to any one of the preceding claims, characterised in that said wall membranes (1A, 1B, 1C) are connected in a sealed manner with each other at those parts that extend along all membrane end regions, and in that venting devices are provided to allow air to enter said cavities (6) when the wall element is being put up.

18. The wall element according to any one of the preceding claims 1 to 15, characterised in that an inner wall membrane (1A) and an outer wall membrane (1B)

are provided with an intermediate wall membrane (1C) extending in between, said inner wall membrane (1A), said intermediate wall membrane (1C) and said outer wall membrane (1B) in their stretched states being spaced apart by at least two rigid spacer elements (2) in such a way that cavities (6) are formed between them.

19. The wall element according to claim 13 and claim 18, characterised in that said rigid spacer elements (2) have rigid connecting pieces (3) with flexible strips (4) formed onto their longitudinal sides that are connected with the inside faces, facing each other, of said inner wall membrane and said intermediate wall membrane (1A, 1C) as well as of said intermediate wall membrane and said outer wall membrane (1C, 1B), so that the longitudinal sides of said rigid connecting pieces (3) are articulately connected to said wall membranes (1A, 1B, 1C), with the pivot points on said wall membranes (1A, 1B, 1C) being chosen in such a way that the membrane portions of the inner and outer wall membranes (1A, 1B) that extend to the end sections and said rigid connecting pieces (3) form an isosceles triangle in their stretched state when viewed in cross-section, while said intermediate wall membrane (1C) extends continuously planarly along the height line of said isosceles triangle.

20. The wall element according to any one of the preceding claims, characterised in that said wall membranes are made of a material which is tight against war gases and the like.

21. The wall element according to claim 18, 19 or 20, characterised in that said intermediate wall membrane (1C) is coated with aluminium or another suitable material in order to achieve heat reflection and/or possibly also shielding against electromagnetic radiation.

22. The wall element according to any one of claims 18 to 21, characterised in that said inner wall membrane (1A) is made of an easy-to-clean material.

23. The wall element according to any one of the preceding claims, characterised in that said at least one rigid spacer element (2) is subdivided once or more times along its length to allow the folding of said wall element.

24. A tent or hall construction using at least one wall element with at least one rigid spacer element according to any one of claims 1 to 23, characterised in that:

- said at least one spacer element (2) is arranged separately from said clamping devices (5) and articulately connected to said at least two wall membranes (1A, 1B, 1C) at inside faces thereof which face each other, so that in the stretched state of said at least two wall membranes (1A, 1B, 1C), due to the tension acting on them, said spacer element (2) adjusts itself in such a way that said at least two wall membranes (1A, 1B, 1C) are kept spaced apart from one another; and in that

- said at least one wall element forms a tunnel-shaped cross section having two side-wall parts (80, 81) and one roof-wall part (90) connecting said side-wall parts.

25. The tent or hall construction according to any one of claims 4 to 23 and 24, characterised in that said section bars (55) for fixing wall membranes (1A, 1B) extend according to the selected tunnel-shaped cross section along a line bent several times, starting at a first base point (101) and ending at a second base point (102) spaced apart from the former, and in that along the course of said section bars (55), two wall membranes (1A, 1B) are fixed with spacer elements (2) in order to form said cavity (6) between said two wall membranes.

26. The tent or hall construction according to claim 25, characterised in that at the bending points of the tunnel cross section, the inner one of said two wall membranes (1A, 1B) is shortened in its longitudinal expansion by having a cut-out lens-shaped opening, and a velcro-type fastening (130) is provided by which the edges of said opening are connectable.

27. The tent or hall construction according to claim 25 or claim 26, characterised in that along said side-wall parts (80, 81), a further outer wall membrane (79) is stretched between said section bars (55), forming a rear ventilation space (95) between said further outer wall membrane (79) and said two wall membranes (1A, 1B).

28. The tent or hall construction according to claim 27, characterised in that spaced apart from the roof-wall part (30), an outer roof-wall membrane (99) is stretched which forms an rear-ventilated air-insulation roof-space (120) between said roof-wall part (30) and said outer roof-wall membrane (99).

29. A wall element having wall membranes (1A, 1B and 79) and section bars (55) between which the wall membranes (1A, 1B and 79) are fixable, as well as a stretching device (15) comprising stretcher rods (25, 26), characterised in that said stretcher rods (25, 26) of said stretching device (15) extend centrally between said wall membranes (1A, 1B and 79) (Fig. 7, Fig. 11).